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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,010	09/11/2003	Robin F. Righettini	IR-3256(IA)DIV	8601

193 7590 05/20/2005

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EXAMINER

SELLERS, ROBERT E

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/662,010	Applicant(s) RIGHETTINI ET AL.	
	Examiner Robert Sellers	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-17 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 11-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/11 & 11/18/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 8 and 10, drawn to a two-part adhesive comprising a first package containing ethylenic unsaturated methacrylate ester(s), a toughener and an adhesion promoter combined with a second package containing a bonding activator, classified in class 524, subclass 548.
- II. Claims 9 and 11-17, drawn to a two-part adhesive comprising an A-side composed of an olefinic monomer, a primary toughener, an optional auxiliary toughener, an optional phosphorus olefinic groups-containing adhesion promoter and a reducing agent together with a B-side prepared from a bonding activator of an oxidizing agent and an epoxy resin, classified in class 525, subclass 65.
 1. Claims 12-17 refer to primary and auxiliary tougheners and reducing agents and are dependent upon independent claim 8 providing no antecedent basis for such components. Independent claim 11 denotes the components. Therefore, claims 12-17 have been included in Group II wherein claim 11 possesses the proper antecedent basis for the components.
 2. The inventions are distinct from each other because the additional presence of the auxiliary toughener, reducing agent and epoxy resin in the adhesive of Group II comprises a materially different formulation from that of Group I exhibiting diverse physical properties.

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Restriction for examination purposes as indicated is proper because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification.

This application contains claims directed to the following patentably distinct species of the claimed invention:

Contingent upon the election of Group I:

First package:

a) The ethylenic unsaturated methacrylic esters such as those of claim 10.

b) The tougheners.

c) The adhesion promoters.

Second package:

d) The bonding activators.

Contingent upon the election of Group II:

A-Side:

e) The olefinic monomers.

f) The primary tougheners.

g) The presence or absence of the auxiliary toughener, wherein if its presence is elected, a particular species is identified.

h) The presence or absence of the phosphorus olefinic groups-containing adhesion promoters, wherein if its presence is elected, a particular species is identified.

B-Side:

- i) The bonding activators containing an oxidizing agent.
- j) The epoxy resins.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 8-17 are generic.

A reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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3. During a telephone conversation with Miles B. Dearth on May 9, 2005, a provisional election was made without traverse to prosecute the invention of Group I and the following species:

First package:

a) The ethylenic unsaturated methacrylic ester: 3,3,5-trimethylcyclohexyl methacrylate.

b) The toughener: The reaction product of glycidyl methacrylate and carboxy-terminated butadiene-acrylonitrile copolymer.

c) The adhesion promoter: 2-hydroxyethylmethacrylate phosphate.

Second package:

d) The bonding activator: benzoyl peroxide.

Claims 8 and 10 comprise the elected invention and species. Affirmation of this election must be made by applicant in replying to this Office action.

The specification on page 1 should be amended to include the patent number for parent application no. 10/147,648 of 6,660,805. The term "glycidyl" is misspelled on page 8, paragraph [0019], line 2.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The ethylenic unsaturated methacrylic esters 1) and 2) are improperly denoted by the terminology "selected from the group" in claim 10, line 4 in the absence of the Markush language "selected from the group consisting of."

5. The phrase "branched C₄-C₁₀ branched" in claim 10, line 7 is unclear and should be modified to "branched C₄-C₁₀" in accordance with page 6, paragraph [0014], lines 8-9 of the specification.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Charnock.

6. Charnock (col. 1, lines 61-66) describes a two-part adhesive. The first part comprises from 10-90% by weight (col. 3, lines 8-13) of an acrylate ester monomer such as the mostly preferred isobornyl methacrylate (col. 2, line 65), from about 5-80% by weight (col. 5, lines 22-25) of an isoprene rubber, an adhesion promoter (col. 5, lines 44-55) and a free radical initiator. The second part contains an activator (col. 6, lines 31-47). The claimed bonding activator in the second package embraces the activator in the second part of the reference. The claimed first package does not preclude the free radical initiator in the first part of Charnock.

Claims 8 and 10 are rejected under 35 U.S.C. 102(a) as being anticipated by Japanese Patent No. 2001-261723.

7. The CAPLUS abstract shows a two-component adhesive. Component 2 comprises 16.2% by weight of isobornyl methacrylate, other methacrylate monomers, 10.0% by weight of acrylonitrile-butadiene rubber (NBR), 7.0% by weight of methylmethacrylate-butadiene-acrylonitrile-styrene rubber (MBAS) and the elected species of phosphoxyethyl acid phosphate. Component 1 contains the same monomers and rubbers with cumene hydroperoxide (deemed to be suitable species of bonding activator in the specification on page 11, paragraph [0027], line 3).

Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Rhigettini et al. Patent No. 5,932,638 or Dawdy Patent No. 4,769,419 or Abbey et al. Patent No. 5,641,834 or Charnock Patent No. 4,451,615.

8. Rhigettini et al. (col. 9, lines 15-45) sets forth a two-package adhesive.

The first package comprises from about 10-90 weight percent of a free radical polymerizable monomer such as butyl methacrylate (col. 4, lines 10-11), from about 10-80 weight percent of a polymeric material such as a liquid olefinic-terminated elastomer (col. 4, line 61 to col. 5, line 8) and an olefinic groups-containing phosphorus compound exemplified by the hydroxyethylmethacrylate phosphate (col. 10, Example 1 table). The second package contains bonding activator of an oxidizing agent exemplified by benzoyl peroxide (col. 10, line 56).

9. Dawdy (col. 6, lines 11-52) reports a two-package adhesive. The first package is composed of from about 10-90% by weight of an olefinic monomer such as butyl methacrylate, from about 10-80% by weight of an olefinic-terminated liquid elastomer and an olefinic groups-containing phosphorus compound such as the elected species of 2-methacryloyloxyethyl phosphate (col. 9, line 42). The second package contains a bonding accelerator of an oxidizing agent such as benzoyl peroxide (col. 10, line 24).

10. Abbey et al. (col. 7, line 58 to col. 8, line 33) espouses a two-package adhesive. The first package comprises from 10-90 weight percent of an olefinic monomer such as butyl methacrylate (col. 8, lines 38-39), from 10-80 weight percent of a polymer derived from the reaction of a hydroxyl-terminated polyalkadiene and anhydride to produce a carboxylic acid-terminated polyalkadiene intermediate which is reacted with an olefinic

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monoepoxide to yield a (meth)acrylate-terminated polyalkadiene whose hydroxyl groups are reacted with a monoisocyanate (col. 4, lines 43-61) and an olefinic groups-containing phosphorus compound such as 2-methacryloyloxyethyl phosphate (col. 9, lines 64-65). The second package contains a bonding activator of an oxidizing agent such as benzoyl peroxide (col. 10, line 48).

Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by Doe et al. Patent No. 6,730,411.

11. Doe et al. (col. 3, lines 50-65) discloses a two-part adhesive composed of an adhesive part and an activator part. The adhesive part comprises preferably from about 30-75 weight percent (col. 4, lines 11-15) of an ethylenically unsaturated monomer such as butyl methacrylate or 2-ethylhexyl methacrylate (col. 4, lines 38-39, within claimed linear C₄-C₁₀ alkyl methacrylates of group 2), from about 3-35 weight percent (col. 5, lines 32-35) of an elastomeric toughener (col. 4, lines 56-57), an adhesion promoter such as the elected species of methacryloxyethyl acid phosphate which is particularly preferred (col. 5, lines 58-60). The activator part contains the particularly preferred benzoyl peroxide which is the elected species of bonding activator (col. 8, lines 35-36).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent No. 220,555; Japanese Patent No. 11-1663, Skoultchi et al. Patent No. 5,106,928 and Yamamoto et al. Patent No. 4,515,917.

12. The European patent (page 5, lines 20-25; page 7, lines 17-19 and page 9, lines 11-13) discloses a two-package adhesive. The first package comprises an olefinically unsaturated monomer in exemplified amounts within the claimed limits (pages 22-23, Examples I-IV) such as butyl methacrylate (page 12, line 31), up to 30% by weight (page 9, lines 13-16) of a polymeric material including (2) butadiene-based elastomers (page 7, line 26 to page 8, line 6), and a second package containing the same components and a peroxygen compound (page 9, lines 11-13).

Phosphorus-containing compounds to improve adhesion (page 16, lines 29-30) such as 2-methacryloyloxyethyl phosphate (page 19, line 22) can be added.

13. The CAPLUS abstract of the Japanese patent shows a two-component adhesive wherein one component comprises 25% by weight of ethylhexyl methacrylate II (butyl methacrylates and isobornyl methacrylate are listed in the translation on page 3, paragraph [0014], lines 3 and 6) and 50% by weight of Nisso PB-TE 2000 which is a polybutadiene flexibilizer (page 4, paragraph [0021], line 5). The other component contains the same monomers and flexibilizer along with cumene hydroperoxide.

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Adhesion promoters such as methacryloyloxyethyl phosphate (page 4, paragraph [0020], lines 2 and 6) are suitable.

14. Skoultchi et al. (col. 8, Example II) shows a two-part adhesive composed of Part I of 70% by weight of isobornyl methacrylate and 30% by weight of a styrene-butadiene block copolymer and Part II of the same components and cumene hydroperoxide.

Adhesion promoters can be incorporated (col. 7, line 4).

15. Yamamoto et al. (col. 2, lines 6-14) sets forth a two-component adhesive composed of a main component and an activating component. The main component is obtained from a methacrylic monomer such as the exemplified butyl methacrylate or 2-ethylhexyl methacrylate (col. 5, line 24 and col. 6, lines 32-33), a chlorosulfonated polyethylene (a suitable species of toughener according to page 7, paragraph 16, the last line) in relative proportions of from 33.3-50% by weight of the monomer and from 50-66.7% by weight of the chlorosulfonated polyethylene (col. 3, lines 12-15), an organic peroxide and an epoxy resin. The activating component includes cobalt naphthenate which is named on page 11, lines 4-5). The prior art activating component is within the realm of the claimed second package containing a bonding activator. The claimed first package does not preclude the presence of the organic peroxide in the main component of the patent.

16. The claimed adhesion promoter in the first package with the ethylenic unsaturated methacrylic ester and toughener is not recited, although the European and Japanese patents and Skoultchi et al. acknowledge the use of adhesion promoters. It would have been obvious to employ the adhesion promoters of the European and Japanese patents in the part with the monomer and elastomer in order to enhance the adhesion.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Kindt-Larsen et al. Patent No. 4,910,259 (col. 4, lines 5-9) is directed to a bone cement prepared from three different (meth)acrylates including the elected species of 3,3,5-trimethylcyclohexyl methacrylate (col. 4, line 43) combined with a powder component of a (meth)acrylate polymer and a polymerization initiator such as benzoyl peroxide.

18. McCarthy Patent No. 3,925,330 (col. 1, lines 43-51) teaches the elected species of toughener derived from the reaction of a carboxyl-terminated liquid diene polymer reacted with an epoxy group-containing vinylidene compound such as glycidyl methacrylate (col. 4, lines 18-19). The liquid vinyl-terminated polymer is mixed with a vinyl monomer and free radical catalyst such as benzoyl peroxide (col. 7, line 16) and is useful in adhesives (col. 1, lines 12-14).

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5/13/2005



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